

CLAIM AMENDMENTS

1. (PREVIOUSLY PRESENTED) A method for regulating the operating frequency of a fiber optic gyroscope with a closed control loop, in which the demodulated output signal of the FOG detector, as actual signal, is applied on the one hand to the input of an FOG main controller and on the other hand, via a gating filter, to a VCO that determines the system clock of the FOG, the output signal of the main controller, as modulation signal, being fed to a digital phase modulator formed in a multifunctional integrated optical chip, and, for the purpose of determining and regulating the exact operating frequency of the FOG, a periodic additional modulation signal is superposed on the demodulated detector output signal passing to the gating filter, characterized in that the additional modulation signal, as analog signal, is fed to separate phase correction electrodes formed in the multifunctional integrated optical chip.

2. (CURRENTLY AMENDED) A multifunctional integrated optical chip for a fiber optic gyroscope in which a digital phase modulator realized by electrodes arranged parallel to a light guiding path is implemented as at least one functional group, characterized in that, in addition to the digital phase modulator, an electrode pair arranged parallel to the light guiding path is present for applying a periodic additional modulation signal to a light beam on the light guiding path for the purpose of regulating the operation frequency of the gyroscope.

3. (PREVIOUSLY PRESENTED) The integrated optical chip as claimed in Claim 2, characterized in that the additional electrode pair is arranged between the phase modulator and a beam splitter.